

ICF International / Laboratory Data Consultants

Environmental Services Assistance Team, Region 9 1337 South 46th Street, Building 201, Richmond, CA 94804-4698 Phone: (510) 412-2300; Fax: (510) 412-2304.

1/	IEN	10	D	Δ Ν	Π	T	M
IV		ΊU	\mathbf{T}	-X L	ทม	w	IVI

TO:

Chris Lichens, Remedial Project Manager

Site Cleanup Section 4, SFD-7-4

THROUGH:

Rose Fong, ESAT Task Order Manager (TOM)

Quality Assurance (QA) Program, MTS-3

FROM:

Doug Lindelof, Data Review Task Manager

Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041

Technical Direction Form No.: 00105060

DATE:

May 23, 2007

SUBJECT:

Review of Analytical Data, Tier 2

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:

Omega Chem OU2

Site Account No.:

09 BC LA02

CERCLIS ID No.:

CAD042245001

Case No.:

36184 Y36K5

SDG No.:

Mitkem Corporation (MITKEM)

Laboratory:

1,4-Dioxane (Semivolatile)

Analysis:

16 Ground Water Samples (see Case Summary)

Samples: Collection Date:

February 26, 2007 through March 1, 2007

Reviewer:

Santiago Lee, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (OA Program/EPA) at (415) 972-3812.

Attachment

Jennie Han-Liu, CLP PO USEPA Region 1 Steve Remaley, CLP PO USEPA Region 9

CLP PO: [] Attention

[] Action

[] No

SAMPLING ISSUES: [X] Yes

Data Validation Report - Tier 2

Case No.: 36184 SDG No.: Y36K5

Site: Omega Chem OU2 Laboratory: Mitkem Corporation.

Reviewer: Santiago Lee, ESAT/LDC

Date: May 23, 2007

I. CASE SUMMARY

Sample Information

Samples: Y36K5, Y36K7 through Y36K9, Y36L1 through

Y36L3, Y36L5 through Y36M0, and Y36M2 through

Y36M4

Concentration and Matrix: Low Concentration Water

Analysis: 1,4-Dioxane (Semivolatile)

SOW: SOM01.1 Modified Analysis 1363.2

Collection Date: February 26, 2007 through March 1, 2007 Sample Receipt Date: February 28, 2007 through March 2, 2007

Extraction Date: February 28, 2007 through March 2, 2007

Analysis Date: March 5 and 6, 2007

Field QC

Field Blanks (FB): Not Provided

Equipment Blanks (EB): Not Provided

Trip Blank (TB): Not Provided

Background Samples (BG): Not Provided

Field Duplicates (D1): Y36L5 and Y36L6

Laboratory QC

Method Blanks & Associated Samples:

VBLK2V: Y36K5, Y36K7 through Y36K9, Y36L1 through

Y36L3, and Y36L5 through Y36L7

VBLK2X: Y36L8 through Y36M0 and Y36M2 through Y36M4

Tables

1A: Analytical Results with Qualifications

1B: Data Qualifier Definitions for Organic Data Review

CLP PO Action

None.

CLP PO Attention

None.

Sampling Issues

- 1. The sampler signature is missing on the traffic report & chain of custody records (TR/COC; attached, p. 11 through 14 in data package).
- 2. For sample Y36L2, one amber bottle was broken when received by the laboratory. There was enough sample volume in the other bottle for analysis.
- 3. Extra sample volume for matrix spike/matrix spike duplicate (MS/MSD) analysis was not provided to the laboratory (only two amber bottles for each sample). Consequently, the MS/MSD analysis could not be performed and the matrix-specific accuracy and precision could not be evaluated.

Additional Comments

As directed by the TOM, a Tier 2 validation (i.e., Tier 3 review of all SV results) was performed.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages;
- USEPA Contract Laboratory Program Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration, SOM01.1, May 2005; and
- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, January 2005.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	<u>Parameter</u>	<u>Acceptable</u>	Comment
1	Holding Time/Preservation	Yes	
2	GC/MS Tune/GC Performance	Yes	
3	Initial Calibration	Yes	
4	Continuing Calibration	Yes	
5	Laboratory Blanks	Yes	
6	Field Blanks	N/A	
7	Deuterated Monitoring Compounds	Yes	
8	Matrix Spike/Matrix Spike Duplicates	N/A	
9	Laboratory Control Samples/Duplicates	N/A	
10	Internal Standards	Yes	
11	Compound Identification	Yes	
12	Compound Quantitation	Yes	
13	System Performance	Yes	

14 Field Duplicate Sample Analysis

Yes

N/A = Not Applicable

III. VALIDITY AND COMMENTS

- A. The following results, denoted with an "L" qualifier, are estimated and flagged "J" in Table 1A.
 - All detected results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

Case No.: 36184

SDG No.: Y36K5

Table 1A - Tier 2

Site: OMEGA CHEM OU2

Lab: MITKEM CORPORATION

Reviewer: Santiago Lee, ESAT/LDC

Date: 05/23/07

QUALIFIED DATA

Concentration in ug/L

Analysis Type :

Low Level Water Samples

for Semivolatiles

Station Location :	Y36K5			Y36K7			Y36K8		·	Y36K9			Y36L1			Y36L2		
Sample ID :	Y36K5			Y36K7			Y36K8			Y36K9			Y36L1			Y36L2		
Collection Date :	2/26/2007			2/26/2007			2/26/2007	·		2/26/2007			2/26/2007			2/27/2007		
Dilution Factor :	1.0			1.0			1.0			1.0	<u> </u>		1.0			1.0		
Semivolatiles	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
1,4-Dioxane	0.79L	J	Α	18			14			24			29			2.0U		

1,4-Dioxane	2.0U			2.00			2.0U			2.0U			2.0U			0.37L	J	Α
Semivolatiles	Result	Val	Com															
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Collection Date :	2/27/2007			2/27/2007			2/27/2007			2/27/2007			2/28/2007			2/28/2007		
Sample ID :	Y36L3			Y36L5		D1	Y36L6		D1	Y36L7			Y36L8			Y36L9		
Station Location:	Y36L3			Y36L5			Y36L6			Y36L7			Y36L8	, '		Y36L9		

1,4-Dioxane	0.26L	J	Α	0.80L	J	Α	23			2.0U			2.0U			2.0U		
Semivolatiles	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Dilution Factor:	1.0			1.0			1.0			1.0			1.0			1.0		
Collection Date:	2/28/2007			2/28/2007			2/28/2007			3/1/2007								
Sample ID :	Y36M0		-	Y36M2			Y36M3			Y36M4			SBLK2V			SBLK2X		
Station Location :	Y36M0			Y36M2			Y36M3			Y36M4		·	Method Bla	ınk		Method Bla	ınk	

Station Location : Sample ID :																		
Collection Date : Dilution Factor :														,				
Semivolatiles	Result	Val	Com	Result	Val	'Com												
1,4-Dioxane	2.0																	

Val - Validity. Refer to Data Qualifiers in Table 1B.

Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL - Contract Required Quantitation Limit

N/A - Not Applicable

NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs

FB - Field Blank, EB - Equipment Blank,

TB - Trip Blank, BG - Background Sample

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," January 2005.

- U The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.
- L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.
- The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).
- NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
- R The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.

	,, ,	74
1	 }	- /1
7/	1 جيدا	

Case No:	36184	
DAS No:		l
SDG No:	436K5	

		673		<u> </u>				SDG No:	٠,	136K5 -
	Date Shipped: Carrier Name:	9-15-2007 Z-27	'-Bauz	Chain of Custod	ly Record	Sampler Signature:		For La	b Use Only	
1	Airbill:	FedEx 859278042139		Relinquished By	(Date / Time)	Received By	(Date / Time)	Lab Cont	tract No: E	P-W-05-030
	Shipped to:	Mitkem Corporatio		1-1-2	2-27-07/1530	(mm 3-8	02:8 70-86	Unit Pric	e: <u>\$</u>	D
1		Warwick RI 02886		2	2			Transfer	то:	-
		(401) 732-3400		3				Lab Cont	tract No:	
L	_			4				Unit Pric	e:	· · · · · · · · · · · · · · · · · · ·
	ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No J PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLI DATE/TIM		INORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
0	Y36K5	Ground Water/ Robert Hernandez	IJĠ	SIM TVOA (21), SVOA (21)	100 (Not preserved), 101 (Not preserved), 110 (HC 111 (HCL), 112 (HCL), 11 (HCL) (6)	L),	S: 2/26/2007	10:05		016
જ	Y36K6	Ground Water/ Robert Hernandez	L∕G	SIM TVOA (21)	(HCL), (0) 114 (HCL), 115 (HCL), 11 (HCL), 117 (HCL) (4)	16 Y36K6	S: 2/26/2007	10:15		
, V)	Y36K7	Ground Water/ Robert Hernandez	M/G	SIM TVOA (21), SVOA (21)	102 (Not preserved), 103 (Not preserved), 118 (HC 119 (HCL), 120 (HCL), 12 (HCL) (6)	L),	S: 2/26/2007	11:10	· .	
OS	Y36K8	Ground Water/ Robert Hernandez	M/G	SIM TVOA (21), SVOA (21)	(Not preserved), 105 (Not preserved), 122 (HC 123 (HCL), 124 (HCL), 12 (HCL) (6)	L),	S: 2/26/2007	11:48		
6	, Y36K9	Ground Water/ Robert Hernandez	M/G	SIM TVOA (21), SVOA (21)	(Not preserved), 107 (Not preserved), 126 (HC 127 (HCL), 128 (HCL), 12 (HCL) (6)	L),	S: 2/26/2007	13:46		
O.	Y36L0	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21)	132 (HCL), 133 (HCL), 13 (HCL), 135 (HCL) (4)	34 Y36L0	S: 2/26/2007	13:40		J
3	Y36L1	Ground Water/ Robert Hernandez	H/G	SIM TVOA (21), SVOA (21)	108 (Not preserved), 109 (Not preserved), 136 (HC 137 (HCL), 138 (HCL), 13	L),	S: 2/26/2007	15:12		. OK

Complete?N	Sample(s) to be used for laboratory QC: Y36K6	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt	Chain of Custody Seal Number:		
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact?		
SIM TVOA = CLP TCL V	/olatiles (including SIM), SVOA = 1,4-Dioxane					

LABORATORY

	EPA	
--	-----	--

ase	No:	36184

DAS No:

SDG No:

436K5

			•	_			, • • •	
Date Shipped: Carrier Name:	2/27/2007	Chain of Custody I	Record	Sampler Signature:		For Lab Use Or	•	
	FedEx	Relinquished By	(Date / Time)	Received By	(Date / Time)	Lab Contract No:	EP-W-05-030	
Airbill:	859278042139	1 6/22	5 2-27-07/1530	$\frac{1}{1}$	ASI PICA	Lub John Luci III.		
Shipped to:	Mitkem Corporation	170	2-61-01/1950		2-2807 8:50	Unit Price:	\$0	
	175 Metro Center Blvd. Warwick RI 02886	2				Transfer To:		
	(401) 732-3400	3				Lab Contract No:		
		4				Unit Price:		

	ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No.J PRESERVATME/ Bottles	STATION LOCATION	SAMPLE © LI DATE/TIM		INORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
68	Y36L2	Ground Water/ Robert Hernandez	ĽG	SIM TVOA (21), SVOA (21)	140 (Not preserved), 141 (Not preserved), 152 (HCL), 153 (HCL), 154 (HCL), 155 (HCL) (6)	Y36L2	S; 2/27/2007	9:40		one of 11 amber
a,	Y36L3	Ground Water/ Robert Hernandez	ĽG	SIM TVOA (21), SVOA (21)	142 (Not preserved), 143 (Not preserved), 156 (HCL), 157 (HCL), 158 (HCL), 159 (HCL) (6)	Y36L3	S: 2/27/2007	10:25	٠.	OK
,0	Y36L4	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	144 (Not preserved), 145 (Not preserved), 160 (HCL), 161 (HCL), 162 (HCL), 163 (HCL) (6)	Y36L4	S: 2/27/2007	10:00		1-L amber missing
3	Y36L5	Ground Water/ Robert Hernandez	l∕G	SIM TVOA (21), SVOA (21)	(146 (Not preserved), 147 (Not preserved), 164 (HCL), 165 (HCL), 166 (HCL), 167 (HCL) (6)	Y36L5	S; 2/27/2007	11:05		٥K
\ ⁰	Y36L6	Ground Water/ Robert Hernandez	Į/G	SIM TVOA (21), SVOA (21)	148 (Not preserved), 149 (Not preserved), 163 (HCL), 169 (HCL), 170 (HCL), 171 (HCL) (6)	Y36L6	S; 2/27/2007	11:10		O'K_
(7)	Y36L7	Ground Water/ Robert Hernandez	L ∕G	SIM TVOA (21), SVOA (21)	(10L) (6) 150 (Not preserved), 151 (Not preserved), 172 (HCL), 173 (HCL), 174 (HCL), 175 (HCL) (6)	Y36L7	S: 2/27/2007	13:02		1K-

Shipment for Case Complete?N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	;	Custody Seal Intact?
SIM TVOA = CLP TCL \	/olatiles (including SIM), SVOA = 1,4-Dioxane			

TR Number:

	EP/	
--	-----	--

SVOA (21)

SIM TVOA (21)

SIM TVOA (21),

SVOA (21)

SIM TVOA (21),

SVOA (21)

Case No:	36184	_
DAS No:		
SDG No:	436K5	L

						<u> </u>	SDG No	·	436K5 -
Date Shipped: Carrier Name:	2/28/2007		Chain of Custod	ly Record	Sampler Signature:		For La	b Use Only	
	FedEx		Relinquished By	(Date / Time)	Received By	(Date / Time)	Lab Cor	itract No:	EP-M-02-030.
Airbill:	8592-7811-0283		1:	2 < 10 = 1	11111 21	(45.V [N	1		40
Shipped to:	Mitkem Corporation	n		252-18-07/1530	<u> </u>	107 000	Unit Pri	ce:	
	175 Metro Center Warwick RI 02886		2	<u> </u>			Transfe	r To:	<u> </u>
	(401) 732-3400		3				Lab Cor	itract No:	
			4				Unit Pric	ce:	
ORGANIC SAMPLE No	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLL DATE/TIME		INORGANIC SAMPLE NO	·
Y36L8	Ground Water/ Robert	Ľ/G	SIM TVOA (21), SVOA (21)	176 (Not preserved), 177 (Not preserved), 186 (HCL		S: 2/28/2007	9:15		OK
	Hernandez		·	187 (HCL), 188 (HCL), 18 (HCL) (6)	9				1
Y36L9	Ground Water/	₽G	SIM TVOA (21),	178 (Not preserved), 179	Y36L9	S: 2/28/2007	10:12		1
	Robert		SVOA (21)	(Not preserved), 190 (HCl					1
	Hernandez	^		191 (HCL), 192 (HCL), 19 (HCL) (6)	3				· •
Y36M0	Ground Water/	₽G	SIM TVOA (21),	180 (Not preserved), 181	Y36M0	S: 2/28/2007	10:51		1

Y36M1

Y36M2

Y36M3

S: 2/28/2007

S: 2/28/2007

S: 2/28/2007

11:00

11:30

13:17

(Not preserved), 194 (HCL),

195 (HCL), 196 (HCL), 197

198 (HCL), 199 (HCL), 200

182 (Not preserved), 183

(Not preserved), 202 (HCL),

203 (HCL), 204 (HCL), 205

184 (Not preserved), 185

(Not preserved), 206 (HCL), 207 (HCL), 208 (HCL), 209

(HCL), 201 (HCL) (4)

(HCL) (6)

(HCL) (6)

(HCL) (6)

			,	
Shipment for Case Complete?N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab =	G	Custody Seal Intact? Shipment Iced?
SIM TVOA = CLPTO	I Volatiles (including SIM) SVOA = 1.4-Dioyane			

TR Number:

Robert

Robert

Robert

Robert

Hernandez

Hernandez Ground Water/

Hernandez

Hernandez

Ground Water/

Ground Water/

υG

ĽG

Ľ/G

1(8

	EP	A
--	----	---

ase	No:	36	184

DAS No:

SDG No:

434K5

						<u> </u>		
Date Shipped: Carrier Name:	5,1,255		Chain of Custody Record		Sampler Signature:		For Lab Use Only	
	FedEx	Relinquished By	(Date / Time)	Received By	(Date / Time)	Lab Contract No:	EP W-05-030	
Airbill: Shipped to:	8592-7811-0310 Mitkem Corporation	1/62	3107 1600	(1)M 3.0.	07 8:50	Unit Price:	\$0	
	175 Metro Center Blvd. Warwick RI 02886	2	<u> </u>			Transfer To:		
	(401) 732-3400	3				Lab Contract No:		
		4				Unit Price:		
ORGANIC SAMPLE No.	MATRIX/ CONC/ SAMPLER TYPE	ANALYSIS/ TURNAROUND	TAG No.J PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLL DATE/TIME			
VOCNA		501.501.501.501	6.6.41		200000			

	ORGANIC SAMPLE No.	Matrix/ Sampler	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No J PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COI DATE/TIM		INORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
ھو	Y36M4 -J,	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	210 (Not preserved), 211 (Not preserved), 222 (HCL), 223 (HCL), 224 (HCL), 225 (HCL) (6)	Y36M4	S: 3/1/2007	9:21		ov_
. \	Y36M5 7	Ground Water/ Robert Hernandez	<i>U</i> G	SIM TVOA (21), SVOA (21)	212 (Not preserved), 213 (Not preserved), 226 (HCL), 227 (HCL), 228 (HCL), 229 (HCL) (6)	Y36M5	S: 3/1/2007	10:08		•
<i>S</i> .	Y36M6 Kalaba	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	214 (Not preserved), 215 (Not preserved), 230 (HCL), 231 (HCL), 232 (HCL), 233 (HCL) (6)	Y36M6	S: 3/1/2007	10:53		
3	Y36M7	Ground Water/ Robert Hernandez	l/G	SIM TVOA (21)	234 (HCL), 235 (HCL), 236 (HCL), 237 (HCL) (4)	Y36M7	S: 3/1/2007	10:38		
4	Y36M8	Ground Water/ Robert Hernandez	VG	SIM TVOA (21), SVOA (21)	216 (Not preserved), 217 (Not preserved), 238 (HCL), 239 (HCL), 240 (HCL), 241 (HCL) (6)	Y36M8	S: 3/1/2007	12:25		
5	Y36M9	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	(Not preserved), 219 (Not preserved), 220 (Not preserved), 221 (Not preserved), 242 (HCL), 243 (HCL), 244 (HCL), 245 (HCL), 246 (HCL), 247 (HCL), 248 (HCL), 249	Y36M9	s: 3/1/2007	13:25		OKE ARN 3/207

Shipment for Case Complete?N	Sample(s) to be used for laboratory QC: YYOMU LABORD "LAD QC"		Cooler Temperature Upon Recelpt:	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact? Y
SIM TVOA = CLP TCL V	/olatiles (including SIM), SVOA = 1,4-Dioxane			

TR Number:

TR Number: 9-373659945-030107-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Phone 703/264-9348 Fax 703/264-9222

(HCL) (12)